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8. The method of claim 1, wherein the concentration is 0.01 nanograms per ml to 30 nanograms per ml.

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9. The method of claim 1, wherein the human zona pellucida protein 3, or the sperm, is fixed on a matrix.

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10. A method to determine sperm activity comprising the steps of (a) contacting an appropriate concentration of human zona pellucida protein 3 with an appropriate amount of sperm under conditions permitting an acrosome reaction to occur; and (b) determining the extent of the acrosome reaction.

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11. The method of claim 10 wherein the concentration of the human zona pellucida protein 3 is 0.01 nanograms per ml to 10,000 nanograms per ml.

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12. The method of claim 10 wherein the concentration is 0.01 nanograms per ml to 5,000 nanograms per ml.

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13. The method of claim 10, wherein the concentration is 0.01 nanograms per ml to 2,500 nanograms per ml.

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14. The method of claim 10, wherein the concentration is 0.01 nanograms per ml to 1,000 nanograms per ml.

- 5 15. The method of claim 10, wherein the
concentration is 0.01 nanograms per ml to 500
nanograms per ml.
- 10 16. The method of claim 10, wherein the
concentration is 0.01 nanograms per ml to 100
nanograms per ml.
- 15 17. The method of claim 10, wherein the
concentration is 0.01 nanograms per ml to 30
nanograms per ml.
- 20 18. The method of claim 10, wherein the human zona
pellucida protein 3 or the sperm is fixed on a
matrix.
- 25 19. A diagnosis kit for sperm activity comprising
compartments with (a) an appropriate amount of
human zona pellucida protein 3 and (b) the
reagents used for establishing the conditions
for allowing the binding of sperm.
- 30 20. A diagnosis kit for sperm activity comprising
compartments with (a) an appropriate amount of
human zona pellucida protein 3 and (b) the
reagents used for establishing the conditions
for allowing an acrosome reaction.
- 35 21. A diagnosis kit for sperm activity comprising
three (3) compartments with (a) an appropriate
amount of human zona pellucida protein 3; (b)
the reagents used for establishing the
conditions for allowing the binding of sperm;
and (c) the reagents used for establishing the
conditions for allowing an acrosome reaction.